

## **REMARKS**

Applicant respectfully requests allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 1-15, 17-31, 33 and 34 are pending in the application, with claims 1 and 21 being independent. Claims 1 and 21 have been amended. No claims are canceled. Support for claim amendments and additions can be found in the original disclosure at least at page 32.

### **Drawing Objections**

In the outstanding Action, the Office states that Applicant did not address the second ground of objection with respect to Figure 3 and the objection is maintained in this action. The objection states that the reference character is not mentioned in the description for object type (74) in Figure 3. Non-Final Office Action of May 22, 2007, p. 5. Applicant has amended the specification as shown above, thus obviating the grounds for this objection. Applicant thus respectfully requests that the Office withdraw this objection.

### **Claim Rejections under §103(a)**

Claims 1, 6, 8-10, 14, 19-21, 25, 26, 28-31 and 34 are rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent 6,513,019 (hereinafter, "Lewis") in view of U.S. Patent Publication No. 2004/0254921 A1 (hereinafter, "Cohen") and in further view of U.S. Patent Publication No. 2007/0078978 A1 (hereinafter, "Arnold").

Claims 2, 3, 5, 22 and 23 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Cohen in further view of Arnold and further in view of U.S. Patent No. 4,868,866 (hereinafter, "Williams").

Claims 57-60 and 62-74 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Dysart in further view of Reed and further in view of Martone.

Claims 4 and 24 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Cohen in further view of Arnold and further in view of U.S. Patent No. 6,645,421 B1 (hereinafter, "Wynblatt").

Claims 7 and 27 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Cohen in further view of Arnold and further in view of U.S. Patent No. 6,072,870 (hereinafter, "Nguyen").

Claims 11 and 12 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Cohen in further view of Arnold and further in view of U.S. Patent No. 5,878,418 (hereinafter, "Polcyn").

Claims 13 and 15 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Cohen in further view of Arnold in further view of Polcyn and further in view of U.S. Patent No. 6,847,971 B1 (hereinafter, "Balaraman").

Claims 17, 18 and 33 are rejected under 35 U.S.C. §103(a) as being obvious over Lewis in view of Cohen in further view of Arnold and further in view of U.S. Patent No. 6,839,680 B1 (hereinafter, "Liu").

Applicant respectfully traverses these rejections. Nevertheless, for the sole purpose of expediting allowance and without conceding the propriety of the Office's rejections, Applicant has amended independent claims 1 and 21 in accordance with the suggestion in the Office Action. Applicant thanks the Office for this suggestion.

**Independent claim 1**, as amended, recites a method for processing information provided from at least one content provider about a state of a plurality of objects, the states being subject to periodic updates, and for delivering formatted information indicating a current state of at least a portion of the plurality of objects to a plurality of clients via a data communication network in substantially real-time, the method comprising the steps of:

- in an information manager:
  - receiving raw data objects on at least one raw data stream input;
  - generating a formatted data object from a received raw data object;
  - storing a current state of the formatted data object in an object storage pool; and
  - broadcasting the current state of the formatted data object on a particular broadcast data stream;
- in a client manager:
  - establishing communication sessions with a plurality of clients;
  - connecting to at least one broadcast data stream;
  - receiving on a connected broadcast data stream a current state for a specific data object;
  - updating an object pool cache to reflect the current state of the specific data object; and
  - transmitting the current state of the specific data object to a set of clients selected from the plurality of clients;

- wherein each connected client has a respective client event queue, the step of transmitting the current state of the specific data object to the set of clients comprises the steps of, for each respective client in the set of clients:
  - placing a state event in the client event queue associated with the respective client, the state event indicating the current state of the particular data object; and
  - *deriving a client event from the state event prior to transmission to the respective client*; and
- subsequently transmitting the client event derived from at least the state event in the client event queue to the respective client.

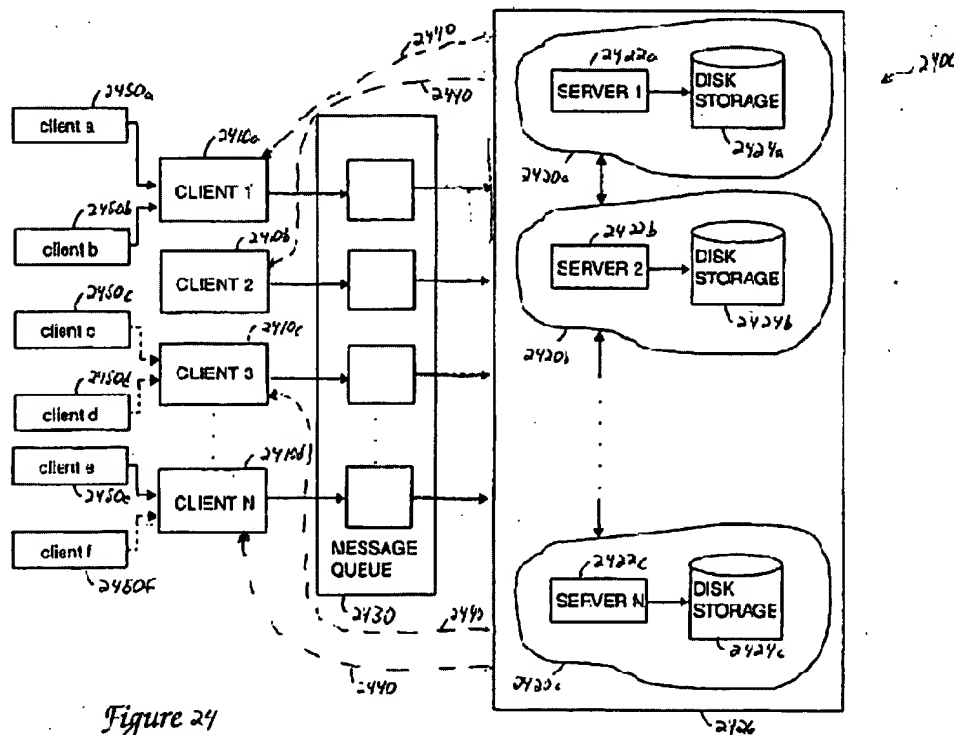
In making out a rejection of Applicant's claim 1, the Office states that the combination of Lewis, Cohen and Arnold render this claim obvious. In making out a rejection of the additional subject matter that was added to claim 1 in the previous Office Action and formerly recited in the previously canceled dependent claim 16, the Office cites Arnold and states that one skilled in the art would be motivated to combine Arnold with Lewis and Cohen, thus rendering Applicant's previous amendment obvious. Applicant respectfully disagrees.

Nevertheless, Applicant has amended claim 1 to include subject matter from the specification as suggested by the Office Action for the sole purpose of expediting allowance. Specifically, independent claim 1 is amended to recite that the method comprises "*deriving a client event from the state event prior to transmission to the respective client.*"

Arnold describes techniques for updating information in a low-bandwidth client/server object-oriented system. According to the patent application, Arnold describes attempting to transmit an identified packet of data from a first computing

system to a second computing system. If the second computing system receives the identified packet, then the second computing system sends an acknowledgment to the first computing system. If the second computing system does not successfully receive the identified packet of data, then the first computing system may attempt to resend the packet. Arnold, abstract.

Additionally, Arnold describes the use of queues to transmit information from a client to a server, or vice versa. For instance, Arnold includes Fig. 24 (reproduced below), which is a diagrammatic representation of a client/server system which queues data that is created and modified on a client for storage on a server.



Arnold goes on to describe Fig. 24 and the use of queues in paragraph [0157], which the Office cites as teaching that “each connected client has a respective client event queue, the step of transmitting the current state of the specific data object to the set of clients comprises the steps of, for each respective client in the set of clients: placing a state event in the client event queue associated with the respective client, the state event indicating the current state of the particular data object; and subsequently transmitting the client event derived from at least the state event in the client event queue to the respective client.” In this paragraph, Arnold states, in part:

[0157] *Clients 2410, which generally include data storage capabilities, may communicate either directly with overall server 2426 or through a "smart" message queue 2430 which is effectively a part of clients 2410 and overall server 2426. Clients 2410 queue data on message queue 2430 when, for example, data has been modified and is to be sent to overall server 2426....Alternatively, overall server 2426 may send data to clients 2410 using a queue (not shown). As described above, overall server 2426 may maintain a queue or queues of objects in which clients 2410 have interest. Hence, data may be transmitted to clients 2410 from overall server 2426 via such queues....*

Arnold, paragraph [0157] (emphasis added).

This portion of Arnold thus states, in total, that clients may communicate with a server via the use of queues and/or servers may communicate with clients with the use of queues.

Applicant’s claim 1 as amended, however, recites “deriving a client event from the state event prior to transmission to the respective client.”

Applicant respectfully submits that neither Arnold nor any of the cited references have been shown to teach or suggest “deriving a client event from the state event” and subsequently “transmitting a client event derived from the state event”...to a client. At most, Arnold has been shown to teach using queues to pass data back and forth between clients and servers. Merely passing data via these queues, however, fails to teach or suggest deriving a second event from a first event that has been placed in a queue, and transmitting the second event to a client.

For at least this reason and the suggestions recited in the Office Action, Applicant respectfully submits that this claim stands allowable.

**Dependent claims 2-15 and 17-20** depend from independent claim 1 and are allowable by virtue of their dependency from allowable claim 1, as well as for the additional features that each recites.

**Independent claim 21**, as amended, recites a system for processing information provided from at least one content provider about a state of a plurality of objects, the states being subject to periodic updates, and for delivering formatted information indicating a current state of at least a portion of the plurality of objects to a plurality of clients via a data communication network in substantially real-time, the system comprising:

- an information manager comprising at least one raw data stream as input, an object pool configured to store formatted data objects, and at least one broadcast data stream as output, each raw data stream carrying a plurality of raw data objects;

- the information manager configured to:
  - generate a formatted data object from a received raw data object;
  - store a current state of the formatted data object in the object storage pool; and
  - broadcast the current state of the formatted data object on a particular broadcast data stream;
- a client manager receiving at least one broadcast data stream as input, comprising an object pool cache, and connectable to a plurality of clients;
- the client manager configured to:
  - establish communication sessions with a plurality of clients;
  - connect to at least one broadcast data stream;
  - receive on a connected broadcast data stream a current state for a specific data object;
  - update an object pool cache to reflect the current state of the specific data object; and
  - transmit the current state of the specific data object to a set of clients selected from the plurality of clients;
- wherein the client manager further comprises a delivery manager comprising a client event queue associated with each client;
- the delivery manager configured to:
  - queue state events directed to a particular client in the client event queue associated with the particular client, the state events indicating the current state of specific data objects;
  - *derive a client event from the state event prior to transmission to the respective client;* and
  - transmit the client event derived from queued state events to the respective client.

Claim 21 has been amended to recite subject matter similar to amended independent claim 1. In making out a rejection of claim 21, the Office states that the combination of Lewis, Cohen, and Arnold render this claim obvious



for reasons identical to those discussed above in regards to claims 1. Therefore, for at least reasons similar to those discussed above, Applicant respectfully submits that this claim stands allowable. For instance, Applicant respectfully submits that the cited references at least fail to disclose or suggest the language emphasized above.

For at least these reasons, Applicant respectfully submits that this claim stands allowable.

**Dependent claims 22-31, 33 and 34** depend from independent claim 21 and are allowable by virtue of their dependency from allowable claim 21, as well as for the additional features that each recites.

**Conclusion**

All of the pending claims are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, **Applicant respectfully requests a call to discuss any remaining issues.**

Respectfully Submitted,

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